CTX PL7

MODEL

SERVICE MANUAL

5.0 TIMING MODE (CTX presetting Timing)

NAME	720X400-70		640X480-60		800X600-60		640X480-85		800X600-85	
PIXEL CLOCK	28.322 MHZ		25.175 MHZ		40.000 MHZ		36.000 MHZ		56.250 MHZ	
Fh	31.469 KHZ		31.469 KHZ		37.879 KHZ		43.269 KHZ		53.674 KHZ	
Fv	70.087 HZ		59.941 HZ		60.317 HZ		85.008 HZ		85.062 HZ	
INTERLACE MODE	NO		NO		NO		NO		NO	
VIDEO	ANALOG-COLOR		ANALOG COLOR		ANALOG COLOR		ANALOG COLOR		ANALOG COLOR	
XS SYNC ON GREEN	NO		NO		NO		NO		NO	
VIDEO LEVEL	700mv		700mv		700mv		700mv		700mv	
WHITE LEVEL	700mv		700mv		700mv		700mv		700mv	
BLANK LEVEL	0 IRE		0 IRE		0 IRE		0 IRE		0 IRE	
16 BIT HEX DATA	0000		0000		0000		0000		0000	
UNIT OF DATA	PIXEL	Us/ms	PIXEL	us/ms	PIXEL	us/ms	PIXEL	us/ms	PIXEL	us/ms
H TOTAL	900	31.777us	800	31.778us	1056	26.400us	832	23.111us	1048	18.631us
H DISPLAY	720	25.422us	640	25.422us	800	20.000us	640	17.778us	800	14.222us
H B-PORCH	54	1.907 us	48	1.907 us	88	2.200us	80	2.222us	152	2.702 us
H-S-WIDTH	108	3.813 us	96	3.813 us	128	3.200us	56	1.556 us	64	1.138 us
H BORDER	0	0.000 us	0	0.000 us	0	0.000 us	0	0.000 us	0	0.000 us
H SIZE	4.000mm		4.000mm		4.000mm		4.000mm		4.000mm	
V TOTAL	449	14.268ms	525	16.683ms	628	16.579ms	509	11.764 ms	631	11.756ms
V DISPLAY	400	12.711ms	480	15.253ms	600	15.840ms	480	11.093 ms	600	11.179ms
V B-PORCH	35	1.112 ms	33	1.049 ms	23	0.607 ms	25	0.578 ms	27	0.503 ms
V S WIDTH	2	0.064 ms	2	0.064 ms	4	0.106 ms	3	0.069 ms	3	0.056 ms
V BORDER	0	0.000 ms	0	0.000 ms	0	0.000 ms	0	0.000 ms	0	0.000 ms
V SIZE	3.000mm		3.000mm		3.000mm		3.000mm		3.000mm	
H S OUTPUT	ON(-)		ON(-)		ON(+)		ON(-)		ON(+)	
V S OUTPUT	ON(+)		ON(-)		ON(+)		ON(-)		ON(+)	
X S OUTPUT	ON(-)		ON(-)		ON(+)		ON(-)		ON(+)	
X S SELECT	H		H		H		H		H	

NAME	1024X768-75		1024X768-85							
PIXEL CLOCK	78.751MHZ		94.500 MHZ							
Fh	60.024KHZ		68.677 KHZ							
Fv	75.030HZ		84.996 HZ							
INTERLACE MODE	NO		NO							
VIDEO	ANALOG-COLOR		ANALOG COLOR							
XS SYNC ON GREEN	NO		NO							
VIDEO LEVEL	700mv		700mv							
WHITE LEVEL	700mv		700mv							
BLANK LEVEL	0 IRE		0 IRE							
16 BIT HEX DATA	0000		0000							
UNIT OF DATA	PIXEL	Us/ms	PIXEL	us/ms						
H TOTAL	1312	16.660us	1376	14.561us						
H DISPLAY	1024	13.003us	1024	10.836us						
H B-PORCH	176	2.235us	208	2.201 us						
H-S-WIDTH	96	1.219us	96	1.016 us						
H BORDER	0	0.000us	0	0.000 us						
H SIZE	4.000mm		4.000 mm							
V TOTAL	800	13.328 ms	808	11.765ms						
V DISPLAY	768	12.795ms	768	11.183ms						
V B-PORCH	28	0.466ms	36	0.524 ms						
V S WIDTH	3	0.050ms	3	0.044 ms						
V BORDER	0	0.000 ms	0	0.000 ms						
V SIZE	3.000 mm		3.000 mm							
H S OUTPUT	ON(+)		ON(+)							
V S OUTPUT	ON(+)		ON(+)							
X S OUTPUT	ON(+)		ON(+)							
X S SELECT	H		H							

6.0 ADJUSTMENT

6.1 1769EL ADJUSTMENT

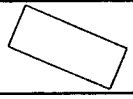
REM:PRESET MODE DATA ADJUSTMENT:

A. Turn off it.

B. Press the ⊕ and ⊖ at same time which on the external control panel.

C. Turn on it.

Remark: Before adjusting, monitor must warm up 20 minutes and CRT must be degaussed.

ADJUSTMENT	LOCATION	SPECIFICATION/DESCRIPTION	TIMING & PATTERN
75V	VR101	J96=75V±0.5V	VGA-480, X'HATCH
12V	VR102	J10=12V±0.2V	VGA-480, X'HATCH
H.V.	VR702	CRT ANODE=25KV±0.2KV	VGA-480, X'HATCH
H-HOLD(L)	VR202	Picture stand or flow slowly when TP4 shorted to GND	VGA-480,X'HATCH 31KHz
H-HOLD(H)	VR201	Ditto	VESA-480/75,X'HATCH
H-PHASE	EXT. H-PHASE KEY	$\frac{\lvert R-L \rvert}{2} \leq 3.0mm$	All of PRESET modes, X'HATCH
V-CENTER	EXT. V-CENTER KEY	$\frac{\lvert U-D \rvert}{2} \leq 3.0mm$	All of PRESET modes, X'HATCH
V-LINE	VR801	$\frac{Ymax-Ymin}{Ymax+Ymin} \leq 7\%$	VGA-480 , X'HATCH
H-WIDTH	VR401	Just over scan when H-WIDTH VR is Max.	SVGAII , X'HATCH
	H-WIDTH KEY	H-WIDTH=310mm±5mm	All of PRESET modes, X'HATCH
V-SIZE	EXT. V-SIZE KEY	V-SIZE=232mm±5mm	All of PRESET modes, X'HATCH
	EXT. PIN KEY	≤ 2.0mm	VGA-480 , X'HATCH
	EXT. KEY STONT	≤ 2.5mm	VGA-480 , X'HATCH
	PARALLEL KEY	≤ 2.5mm	VGA-480 , X'HATCH
	PROTATION KEY	≤ 2.0mm	VGA-480 , X'HATCH
SCREEN	EXT.G2 KEY	Raster 1-2FL when broghtness value = MAX,contrast value=MAX	VGA-400 MOSAIC
FOCUS	FBT FOCUS VR	Optimum point	VGA-480 , "m"

DESCRIPTION OF CONTROL PANEL

LED NO / KEY	TOTAL OFF	1	2	3	4	1+2	1+3	1+4	1+2+3	1+2+4
+ -	CONTRAST	H-POSITION	H-SIZE	SIDE PIN	PALALLEL	R-GAIN	G-GAIN	B-GAIN	SUB CONT	G2
▽△	BRIGHT	V-POSITION	V-SIZE	KEY STONE	ROTATION	R-BIAS	G-BIAS	B-BIAS	SUB CONT	-

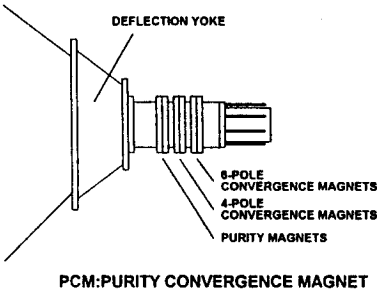
ADJUSTMENT	LOCATION	SPECIFICATION/DESCRIPTION	TIMING & PATTERN
WHITE BALANCE PRE ADJ	EXT. BRIGHT KEY	DAC=50%	VGA-480, MOSAIC
	EXT. CONTRAST	DAC=MAX (SPEC=35~45FL)	VGA-480, MOSAIC
	FBT SCREEN KEY	RASTER Y=1~2FL When brightness value=50% contrast value=MAX	VGA-480, MOSAIC
	R.G.B BIAS KEY	RASTER X=281±10, Y=311±10	VGA-480, MOSAIC
	G2 KEY	RASTER=0.02FL When brightness value=50% contrast value=MAX	VGA-480, MOSAIC
	SUB-CONT KEY	MOSAIC Y=40±1FL	VGA-480, MOSAIC
WHITE BALANCE ADJ	R.G.B GAIN KEY	X=281±10, Y=311±10 When Brightness is min. and Contrast is max.	VGA-480, FULL WHITE
	R.G.B. BIAS KEY	X=281±5, Y=311±5 When Brightness is 50% and Contrast is in 1~2FL	VGA-480, FULL WHITE

Brightness

reduce

		R+B			B+G	R+G		
	BRIGHT BLUE	BRIGHT RED	BRIGHT PRUPLE	GREEN	BLUE + GREEN	RED + YELLOW	WHITE	
15								7
14								6
13								5
12								4
11								3
10								2→visible
9								1→visible obscurely
8								0

CONVERGENCE	4 POLE OF PCM	Vertical RED and BLUE lines are converged by varying the angle between the two tabs.	VGA-480 , MAGERTA X'HATCH
	4 POLE OF PCM	Horizontal RED and BLUE lines are converged by moving the two tabs at the same time.	VGA-480 , MAGENTA X'HATCH
	6 POLE OF PCM	Vertical GREEN and MAGENTA lines are converged by varying the angle between the two tabs.	VGA-480 , X'HATCH
	6 POLE OF PCM	Horizontal GREEN and MAGENTA lines are converged by moving the two tabs at the same time.	VGA-480 , X'HATCH



PCM:PURITY CONVERGENCE MAGNET

TEST CONDITIONS: TIMING : 640X480-60Hz (31K)
PATTERN: CROSS HATCH

Unit: Volt

IC	IC101 (3842)							
PIN / AC IN	1	2	3	4	5	6	7	8
110V	3.37	2.50	0.16	0.40	0	3.49	15.04	5.01
220V	3.43	2.51	0.21	0.39	0	1.60	15.03	5.01

TR	Q101 (BT169)			Q103 (C945)			Q104 (FS10KM-12)		
PIN / AC IN	A	K	G	E	C	B	S	D	G
110V	132.61	2.78	0	0	0	0.67	0.08	132.80	3.01
220V	275.73	2.44	0	0	0	0.67	0.04	276.73	1.17

TR	Q106 (2SB722)			Q107 (2SD882)			Q108 (C945)		
PIN / STATUS	E	C	B	E	C	B	E	C	B
NORMAL	26.33	26.25	25.63	12.00	15.08	12.64	GND	0.07	0.65
SUSPEND	26.89	2.58	26.89	1.83	13.05	2.41	GND	26.88	0.01
OFF	28.35	2.59	28.35	1.83	14.76	2.42	GND	23.31	0.01

TR	Q109 (C945)			Q110 (2SB722)			Q111 (C945)		
PIN / STATUS	E	C	B	E	C	B	E	C	B
NORMAL	6.18	12.64	6.77	6.72	6.50	5.98	GND	0.08	0.64
SUSPEND	1.84	2.42	1.04	3.91	3.67	3.20	GND	0.06	0.64
OFF	1.84	2.44	1.04	8.19	0	8.19	GND	8.18	0.01

IC	IC102 (KA805)			IC501 (UM68P61)	
PIN / STATUS	I	G	O	20	21
NORMAL	12.76	GND	4.97	4.94	4.95
SUSPEND	9.48	GND	9.46	4.49	0.02
OFF	11.15	GND	4.98	0.03	0.03

TEST CONDITIONS: AC LINE IN:110V/60Hz
PATTERN: CROSS HATCH
STATUS : NORMAL

Unit: Volt

IC	IC501 (UMC6861)									
PIN / MODE	1	2	3	4	5	6	7	8	9	10
640X480-60(31K)	2.03	0.78	0.87	4.94	4.96	GND	2.23	2.24	4.96	4.96
800X600-85(53K)	3.01	0.78	0.87	4.94	4.97	GND	2.23	2.25	4.97	4.97
1024X768-85(68K)	1.54	0.79	0.87	4.94	4.97	GND	2.23	2.25	4.97	4.97

IC	IC501 (UMC6861)									
PIN / MODE	11	12	13	14	15	16	17	18	19	20
640X480-60(31K)	4.96	4.96	4.96	4.96	4.96	4.96	4.96	4.96	4.96	4.94
800X600-85(53K)	4.96	4.96	4.96	4.96	4.96	4.96	0.15	0.12	4.96	4.95
1024X768-85(68K)	4.96	4.96	4.96	4.96	4.96	4.97	0.16	0.14	0.13	4.95

IC	IC501 (UMC6861)									
PIN / MODE	21	22	23	24	25	26	27	28	29	30
640X480-60(31K)	4.95	4.96	0	0.8~4.95	4.96	3.38	0.11	2.47	0.10	0.65
800X600-50(53K)	4.96	4.97	0.03	0.8~4.96	4.97	3.39	0.11	2.47	1.62	1.89
1024X768-85(68K)	4.95	4.97	0.04	0.8~4.96	4.96	3.38	0.11	2.47	1.62	1.89

IC	IC501 (UMC6861)									
PIN / MODE	31	32	33	34	35	36	37	38	39	40
640X480-60(31K)	3.15	0.15	0.69	11.26	0	0.66	0.87	1.14	3.71	4.52
800X600-50(53K)	2.86	0.15	0.43	4.50	1.06	1.29	1.46	1.15	0.35	0.03
1024X768-85(68K)	3.29	0.15	0.48	0.08	1.10	1.25	1.36	1.17	0.38	0.03

IC	IC502 (AT24C04)							
PIN / MODE	1	2	3	4	5	6	7	8
640X480-60(31K)	4.97	GND	4.97	GND	4.97	4.97	GND	4.97
800X600-50(53K)	4.97	GND	4.97	GND	4.97	4.97	GND	4.97
1024X768-85(68K)	4.97	GND	4.97	GND	4.97	4.97	GND	4.97

TR	Q501 (A733)			Q502 (A733)			Q503 (C945)		
PIN / MODE	E	C	B	E	C	B	E	C	B
640X480-60(31K)	4.97	-0.31	7.40	4.97	4.94	4.27	2.19	10.25	2.79
800X600-50(53K)	4.97	-0.36	7.40	4.97	4.94	4.28	2.55	10.24	3.15
1024X768-85(68K)	4.97	-0.32	7.40	4.97	4.94	4.28	2.53	10.24	3.13

TR	Q504(A733)			Q505 (C945)			Q508 (C945)		
PIN / MODE	E	C	B	E	C	B	E	C	B
640X480-60(31K)	10.86	1.38	10.25	3.38	4.97	3.95	4.96	11.98	4.96
800X600-50(53K)	10.86	1.86	10.24	0.32	4.97	0.27	4.97	11.98	4.97
1024X768-85(68K)	10.85	1.76	10.24	0.39	4.97	0.32	0.13	0.15	0.83

TR	Q509 (C945)			Q510 (C945)			Q511 (C945)		
PIN / MODE	E	C	B	E	C	B	E	C	B
640X480-60(31K)	4.96	9.61	4.96	4.96	8.47	4.96	0.50	4.96	0.70
800X600-50(53K)	0.12	0.15	0.83	0.16	0.18	0.86	0.27	4.97	0.43
1024X768-85(68K)	0.14	0.16	0.84	0.16	0.19	0.87	0.31	4.97	0.48

TR	Q512 (C945)			Q515 (C945)			Q516 (JC337-25)		
PIN / MODE	E	C	B	E	C	B	E	C	B
640X480-60(31K)	GND	4.39	-0.56	10.87	11.98	11.27	4.46	11.99	5.07
800X600-50(53K)	GND	4.40	-0.56	4.80	11.99	4.51	5.08	11.99	4.47
1024X768-85(68K)	GND	4.40	-0.56	0.72	11.98	0.08	5.08	11.99	4.47

TR	Q517 (JC325)			Q518 (A733)		
PIN / MODE	E	C	B	E	C	B
640X480-60(31K)	5.08	GND	4.47	10.87	GND	11.27
800X600-50(53K)	5.08	GND	4.47	4.80	GND	4.51
1024X768-85(68K)	5.08	GND	4.47	0.72	GND	0.08

TEST CONDITIONS: AC LINE IN:110V/60Hz
TIMING: 640X480-60Hz (31K)
PATTERN: a. Cross-hatch b. Full white

Unit: Volt

IC	IC601 (M52743)									
PIN / MODE	1	2	3	4	5	6	7	8	9	10
Cross-hatch	2.27	2.41	11.76	2.23	GND	2.41	2.89	11.76	2.23	GND
Full white	2.25	2.88	11.76	2.22	GND	2.87	3.12	11.76	2.22	GND

IC	IC601 (M52743)									
PIN / MODE	11	12	13	14	15	16	17	18	19	20
Cross-hatch	2.43	11.76	2.25	GND	2.97	0.01	4.94	0.02	0.50	4.96
Full white	2.88	11.76	2.25	GND	2.37	0.01	4.94	0.02	0.31	4.96

IC	IC601(M52743)									
PIN / MODE	21	22	23	24	25	26	27	28	29	30
Cross-hatch	4.96	GND	3.75	1.89	1.79	1.43	0.51	4.89	1.92	1.93
Full white	4.96	GND	3.75	1.89	1.79	1.43	1.01	4.89	3.32	1.93

IC	IC601 (M52743)					
PIN / MODE	31	32	33	34	35	36
Cross-hatch	4.38	1.91	GND	2.02	1.92	11.67
Full white	4.38	3.36	GND	1.89	3.36	11.67

IC	IC604 (LM2437T)								
PIN / MODE	1	2	3	4	5	6	7	8	9
Cross-hatch	58.50	58.37	58.32	75.45	GND	1.29	1.31	11.76	1.30
Full white	38.05	37.95	38.46	75.86	GND	2.66	2.70	11.76	2.71

TR	Q607 (A733)			Q608 (C945)			Q634 (BF423)		
PIN / MODE	E	C	B	E	C	B	E	C	B
Cross-hatch	3.02	GND	3.93	0.51	4.96	0.40	65.20	GND	65.07
Full white	2.34	GND	1.74	0.53	4.99	0.42	66.06	GND	65.59

TR	Q635 (BF422)			Q654 (BF423)			Q655 (BF422)		
PIN / MODE	E	C	B	E	C	B	E	C	B
Cross-hatch	1.33	51.84	1.88	66.06	GND	65.95	1.23	53.51	1.78
Full white	1.33	52.33	1.89	66.73	GND	66.45	1.23	54.02	1.78

TR	Q674 (BF423)			Q675 (BF422)		
PIN / MODE	E	C	B	E	C	B
Cross-hatch	68.57	GND	68.42	0.89	59.35	1.43
Full white	69.45	GND	68.92	0.88	59.86	1.43

TEST CONDITIONS: AC LINE IN:110V/60Hz
PATTERN: CROSS HATCH
STATUS : NORMAL

Unit: Volt

IC	IC201 (LA7856)									
PIN / MODE	1	2	3	4	5	6	7	8	9	10
640X480-60(31K)	7.51	7.32	7.94	-0.08	4.23	3.59	5.84	5.79	5.60	11.65
800X600-50(53K)	7.51	7.18	7.86	-0.04	3.69	3.03	5.72	5.74	5.44	11.64
1024X768-85(68K)	7.50	7.08	7.81	-0.02	3.52	2.85	5.90	5.72	5.37	11.63

IC	IC201 (LA7856)									
PIN / MODE	11	12	13	14	15	16	17	18	19	20
640X480-60(31K)	6.05	5.42	0.25	GND	2.49	8.61	0.22	3.08	5.68	11.65
800X600-50(53K)	5.95	5.34	0.20	GND	2.46	8.53	0.24	2.40	5.64	11.64
1024X768-85(68K)	5.88	5.22	0.18	GND	2.46	8.52	0.24	2.39	5.67	11.63

IC	IC401 (3843)							
PIN / MODE	1	2	3	4	5	6	7	8
640X480-60(31K)	2.42	2.48	0.03	0.07	GND	1.57	12.00	4.97
800X600-50(53K)	2.80	2.48	0.09	0.27	GND	3.20	12.01	4.98
1024X768-85(68K)	2.83	2.48	0.11	0.44	GND	4.20	12.01	4.98

IC	IC701 (TL431)			IC801 (LA7838)				
PIN / MODE	K	R	A	1	2	3	4	5
640X480-60(31K)	8.72	2.48	GND	11.71	8.60	5.86	6.03	11.11
800X600-50(53K)	9.30	2.48	GND	11.72	8.53	5.86	6.02	11.14
1024X768-85(68K)	9.54	2.48	GND	11.72	8.52	5.86	6.02	11.14

IC	IC801 (LA7838)							
PIN / MODE	6	7	8	9	10	11	12	13
640X480-60(31K)	5.72	5.74	26.22	0.98	1.40	GND	13.78	25.88
800X600-50(53K)	5.73	5.74	26.61	1.30	1.40	GND	13.76	26.42
1024X768-85(68K)	5.73	5.74	26.76	1.30	1.39	GND	13.77	26.57

TR	Q201 (A733)			Q202 (C945)			Q203 (A733)		
PIN / MODE	E	C	B	E	C	B	E	C	B
640X480-60(31K)	3.95	GND	3.34	GND	0.01	0.66	10.47	5.79	9.89
800X600-50(53K)	3.36	GND	2.74	GND	2.51	0.10	9.55	5.74	8.95
1024X768-85(68K)	2.80	GND	2.17	GND	2.36	0.83	8.96	5.72	8.35

TR	Q204 (C945)			Q205 (C945)			Q206 (C945)		
PIN / MODE	E	C	B	E	C	B	E	C	B
640X480-60(31K)	0.04	11.65	0.15	3.34	11.65	3.96	4.29	11.65	4.42
800X600-50(53K)	0.04	11.64	0.16	2.74	11.64	3.37	4.30	11.64	4.36
1024X768-85(68K)	0.04	11.63	0.15	2.17	11.63	2.79	4.24	11.63	4.26

TR	Q207 (A733)			Q209 (C945)			Q210 (C945)			Q211 (C945)		
PIN / MODE	E	C	B	E	C	B	E	C	B	E	C	B
640X480-60(31K)	4.29	GND	4.42	1.53	4.43	2.17	4.43	11.98	5.05	4.43	9.89	5.03
800X600-50(53K)	4.30	GND	4.36	1.53	4.43	2.17	4.43	11.99	5.05	4.43	10.20	5.02
1024X768-85(68K)	4.24	GND	4.26	1.53	4.43	2.17	4.43	11.98	5.05	4.43	10.13	5.02

TR	Q401 (FS12UM-5)			Q701 (2SC4924)			Q702 (2SC2688)		
PIN / MODE	S	D	G	E	C	B	E	C	B
640X480-60(31K)	0.03	42.58	1.58	GND	58.14	-0.08	GND	72.72	0.28
800X600-50(53K)	0.09	42.80	3.21	GND	100.06	-1.05	GND	73.38	0.26
1024X768-85(68K)	0.12	42.84	4.18	GND	133.58	-0.97	GND	73.43	0.22

TR	Q703 (BF488)			Q704 (IRF630)			Q705 (IRF630)		
PIN / MODE	E	C	B	S	D	G	S	D	G
640X480-60(31K)	12.01	-211.52	11.50	0	0	11.98	0	0	9.61
800X600-50(53K)	12.01	-189.63	11.52	0	0	11.99	0	38.06	0.15
1024X768-85(68K)	12.01	-182.08	11.53	0	38.88	0.15	0	39.07	0.16

TR	Q708 (JC337)			Q709 (FS7KM-16A)			Q711 (A733)		
PIN / MODE	E	C	B	S	D	G	E	C	B
640X480-60(31K)	GND	0.05	0.70	GND	3.43	16.38	18.13	13.48	17.56
800X600-50(53K)	GND	11.98	0.16	GND	6.82	15.68	18.45	11.13	17.97
1024X768-85(68K)	GND	11.98	0.17	GND	9.20	15.09	18.58	10.56	18.15

TR	Q712 (A733)			Q713 (C945)			Q714 (A733)		
PIN / MODE	E	C	B	E	C	B	E	C	B
640X480-60(31K)	14.03	GND	13.48	16.38	GND	16.73	16.38	25.79	16.38
800X600-50(53K)	11.62	GND	11.13	15.68	GND	15.97	15.68	26.12	15.97
1024X768-85(68K)	11.05	GND	10.59	15.11	GND	15.36	15.11	26.26	15.36

TR	Q715 (C945)			Q716 (C945)			Q717 (C945)		
PIN / MODE	E	C	B	E	C	B	E	C	B
640X480-60(31K)	-0.31	4.25	0	GND	4.25	0	GND	0.03	0.66
800X600-50(53K)	-0.06	4.48	0	GND	4.48	0.02	GND	0.33	-0.86
1024X768-85(68K)	-0.01	4.56	0	GND	4.56	0.04	GND	0.36	-0.91

TR	Q718(C327)			Q719 (MPSA44)			Q720 (C945)		
PIN / MODE	E	C	B	E	C	B	E	C	B
640X480-60(31K)	-0.05	-0.52	0.37	0.79	75.03	1.31	0.05	0.23	0.57
800X600-50(53K)	-0.02	-1.04	0.32	0.79	69.42	1.31	0.14	0.16	0.70
1024X768-85(68K)	-0.02	-0.96	0.34	0.79	67.64	1.31	0.14	0.16	0.70

TR	Q722 (C945)			Q723 (BF423)			Q801 (C945)		
PIN / MODE	E	C	B	E	C	B	E	C	B
640X480-60(31K)	GND	10.00	0.07	4.25	-65.10	3.65	2.36	6.03	2.84
800X600-50(53K)	GND	10.00	0.09	4.48	-67.17	3.88	3.18	6.02	3.67
1024X768-85(68K)	GND	10.01	0.08	4.56	-67.75	3.96	3.18	6.02	3.67

TR	Q802 (A733)			Q803 (C945)			Q804 (JC337)		
PIN / MODE	E	C	B	E	C	B	E	C	B
640X480-60(31K)	5.72	GND	5.73	0.72	11.77	1.31	12.34	26.23	12.36
800X600-50(53K)	5.72	GND	5.73	0.73	12.01	1.32	12.58	26.62	12.60
1024X768-85(68K)	5.72	GND	5.73	0.74	11.90	1.34	12.47	26.77	12.48

TR	Q805 (JC327)			Q806 (A733)		
PIN / MODE	E	C	B	E	C	B
640X480-60(31K)	12.34	GND	11.77	2.84	GND	2.23
800X600-50(53K)	12.58	GND	12.01	3.67	GND	3.06
1024X768-85(68K)	12.47	GND	11.90	3.67	GND	3.06

Recommended Spare Parts List

MODEL : 1769EL

DOC. NO: _____ APPROVED BY: _____

DATE : 8-May-2000 CHECKED BY: _____

REV. : A PREPARED BY: Mr.Sawarng K.

Chuntex (Thailand) Service

CTX

Recommended Spare Parts List

MODEL : 1769EL						MAIN BOARD REV:	
ITEM	PRIORITY	NEW PARTS	PART NO	DESCRIPTION	LOCATION	UNIT PRICE	REMARK
1	●		17A06-150G	IC 3842	IC101		
2			17A07-040S	KA7805A	IC102		
3			17A06-170H	LA7856	IC201		
4	⊙		17A06-190G	IC 3843	IC401		
5	⊙		16P40-054F	NT 6861 MASK ROM	IC501		
6			16M08-009R	AT24C04	IC502		
7	●		17A07-031D	TL431	IC701		
8			17A06-130H	LA7838	IC801		
9			14T92-011E	BT169D	Q101		
10	●		14K22-150U	FS10KM-12	Q104		
11			14B26-030B	2SB772	Q106-Q110		
12	⊙		14D26-010B	2SD882	Q107		
13			14K22-110WU	FS12UM-5	Q401		
14			14C92-311E	JC337-25	Q516		
15			14A92-151E	JC327-25	Q517		
16	●		14C3P-230C	2SC4924	Q701		
17	⊙		14C26-040B	2SC2688K	Q702		
18			14A92-141E	BF488	Q703		
19			14K22-110W	IRF630/890	Q704,Q705		
20			14K22-280U	FS7KM-16A	Q709		
21			14A92-021B	2SA733 P/Q	Q711,Q712,Q714		
22			14C92-111B	2SC945P/Q	Q713,Q715,Q716		
23			14C92-371N	MPSA44	Q719		
24			14A92-061E	BF423	Q723		
25			15S47T301F	BYV36C	D108		
26	⊙		15S64-A01F	BYT28-300	D109		
27			15S47TK00F	BYM26C	D110		

Remark: ●:1st priority , Recommended Q'ty=(Location Number) x4
⊙:2nd prioity , Recommended Q'ty=(Location Number) x5

CTX

Recommended Spare Parts List

MODEL : 1769EL

MAIN BOARD

REV:

ITEM	PRIORITY	NEW PARTS	PART NO	DESCRIPTION	LOCATION	UNIT PRICE	REMARK
28			15S43T401T	HER203	D111		
29			15S43T601T	HER303	D112		
30			15S47T600F	IN5406	D119-D122		
31	⊙		15S43T601T	HER303	D407		
32			15Z33M6290H	ZENER DI 6.2 V	ZD102		
33	●		15Z33M1800H	ZENER DI 18 V	ZD103		
34			15Z33M8290H	ZENER DI 8.2 V	ZD201		
35			15Z33M5190H	ZENER DI 5.1 V	ZD504-ZD505		
36			15Z33M4790H	ZENER DI 4.7 V	ZD702		
37			47D10-0270T	XFMR DRIVE IE 19	T701		
38	⊙		47F13-1040B	XFMR FBT	T702		
39			23755-2284	RES MOF 0.22R 2W	R126,R406,R407,R417		
40	⊙		33122-222R	CAP 2200PE 100V	C209		
41			26B00-0081	NTCR 7R 20% 3P	NTC101		
42	●		49FB2-0A0A	FUSE SLOW 3.15A 250V	F101		
	•						

Remark: ●:1st priority , Recommended Q'ty=(Location Number) x2

⊙:2nd prioity , Recommended Q'ty=(Location Number) x3

CTX

Recommended Spare Parts List

MODEL : 1769EL

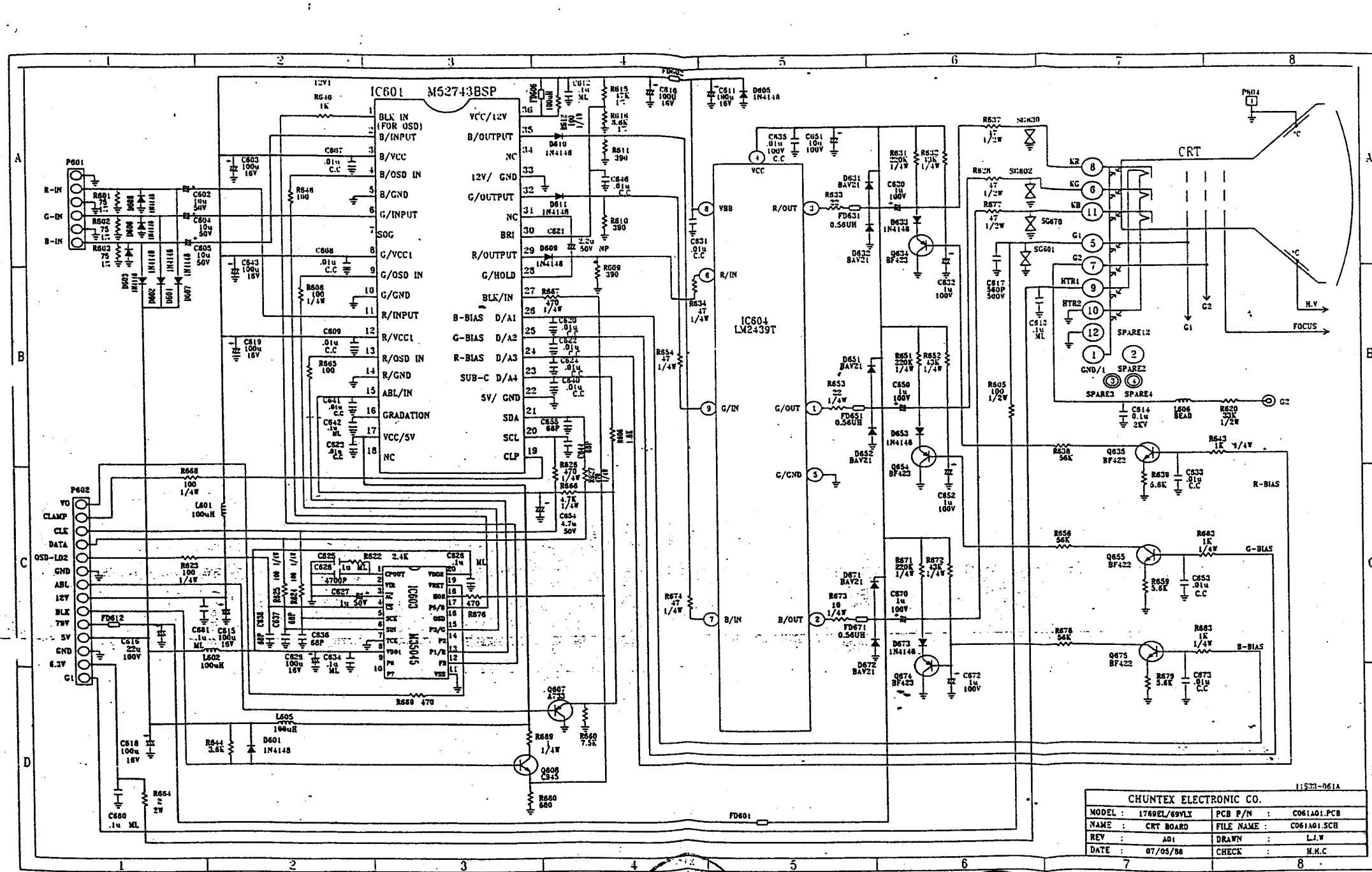
CRT BOARD

REV:A00

ITEM	PRIORITY	NEW PARTS	PART NO	DESCRIPTION	LOCATION	UNIT PRICE	REMARK
1	⊙		17A04-230V	M52743BSP	IC601		
2	●		17A04-240H	LM2439T	IC604		
3			14A92-061E	BF423	Q634,Q654,Q674		
4			14C92-011E	BF422	Q635,Q655,Q675		

Remark: ●:1st priority , Recommended Q'ty=(Location Number) x1

⊙:2nd prioity , Recommended Q'ty=(Location Number) x1



CHUNTEX ELECTRONIC CO.			
MODEL :	1769EL/69VLX	PCB P/N :	C061A01.PCB
NAME :	CRT BOARD	FILE NAME :	C061A01.SCH
REV :	A01	DRAWN :	L.J.W
DATE :	97/05/88	CHECK :	H.H.C

11533-061A

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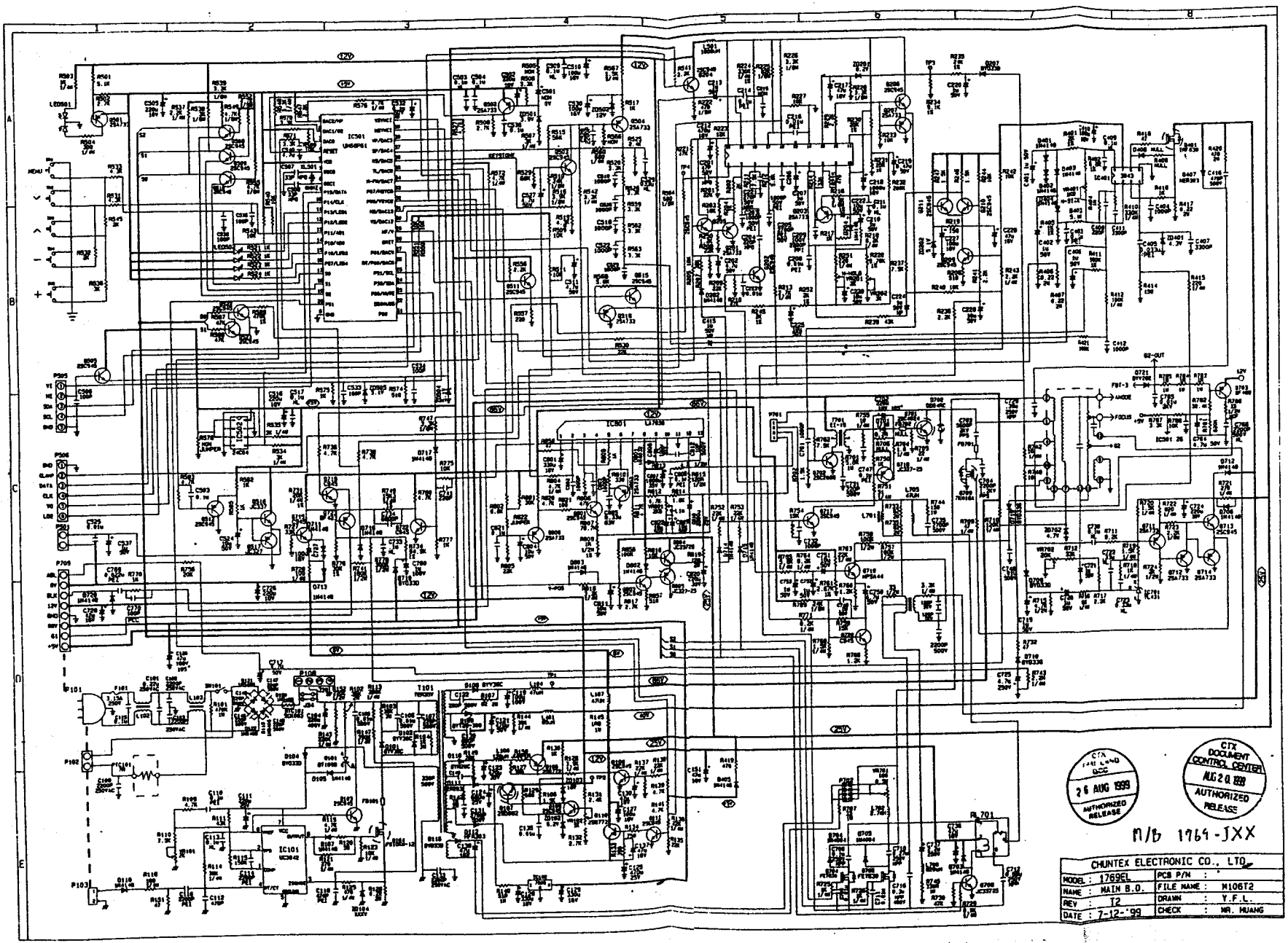
-9056
-9056

26 AUG 1999
AUTHORIZED RELEASE
CTX DOCUMENT CONTROL CENTER
AUG 20 1999
AUTHORIZED

5'4 / 535'374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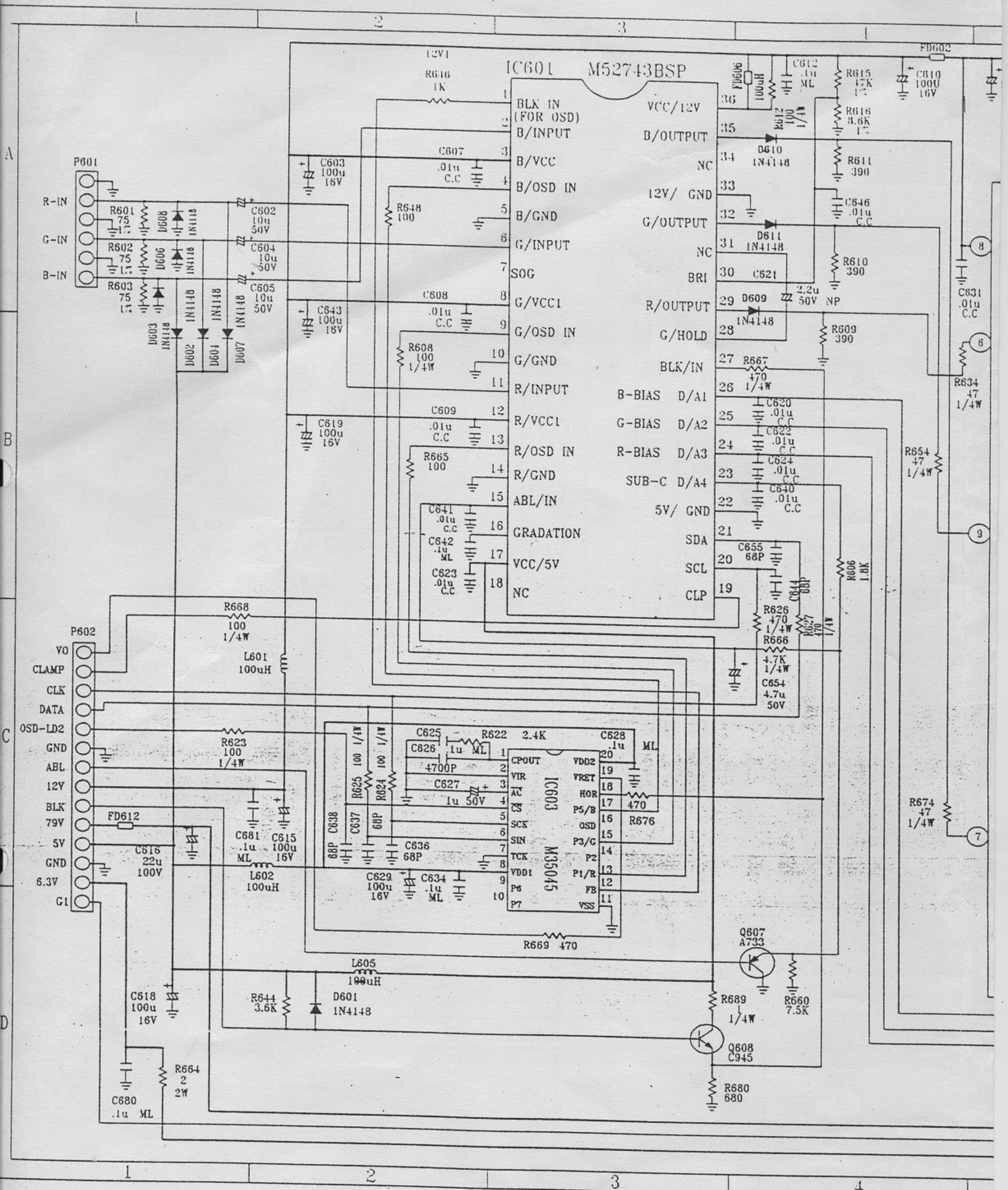
CTX DOCUMENT CONTROL CENTER
AUG 20 1999
AUTHORIZED RELEASE
M/B 1769-JXX
CHUNTEX ELECTRONIC CO., LTD.
MODEL : 1769EL
PCB P/N :
NAME : MAIN B.D.
FILE NAME : M106T2
REV : T2
DRAWN : Y.F.L.
DATE : 7-12-'99
CHECK : MR. HUANG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C603 100u 16V
C607 .01u C.C
R648 100
C643 100u 16V
C608 .01u C.C
R608 100 1/4W
C619 100u 16V
C609 .01u C.C
R665 100
C641 .01u C.C
C642 .1u ML
C623 .01u C.C
BLK IN (FOR OSD)
B/INPUT
B/VCC
B/OSD IN
B/GND
G/INPUT
SOG
G/VCC1
G/OSD IN
G/GND
R/INPUT
R/VCC1
R/OSD IN
R/GND
ABL/IN
GRADATION
VCC/5V
NC
VCC/12V
B/OUTPUT
NC
12V/ GND
G/OUTPUT
NC
BRI
R/OUTPUT
G/HOLD
BLK/IN
B-BIAS D/A1
G-BIAS D/A2
R-BIAS D/A3
SUB-C D/A4
5V/ GND
SDA
SCL
CLP
FD602
FD606 100uH
C612 .1u ML
R615 47K
R616 3.6K
C610 100U 16V
R612 100 1/4W
D610 1N4148
R611 390
C646 .01u C.C
D611 1N4148
R610 390
C621 2.2u 50V NP
D609 1N4148
R609 390
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C622 .01u C.C
C624 .01u C.C
C640 .01u C.C
C655 68P
C644 68P
R606 1.8K
R626 470 1/4W
R627 470 1/4W
R666 4.7K 1/4W
C654 4.7u 50V
C631 .01u C.C
R634 47 1/4W
R654 47 1/4W
R674 47 1/4W
P601
R-IN
G-IN
B-IN
R601 75
R602 75
R603 75
D608 1N4148
D606 1N4148
D603 1N4148
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D607 1N4148
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C604 10u 50V
C605 10u 50V
P602
VO
CLAMP
CLK
DATA
OSD-LD2
GND
ABL
12V
BLK
79V
5V
GND
6.3V
G1
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L601 100uH
R623 100 1/4W
FD612
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C681 .1u ML
C615 100u 16V
L602 100uH
C618 100u 16V
C680 .1u ML
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R644 3.6K
D601 1N4148
L605 100uH
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C625
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4700P
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R622 2.4K
C628 .1u ML
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R624 100 1/4W
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C638 68P
C636 68P
C629 100u 16V
C634 .1u ML
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VIR
AC
CS
SCK
SIN
TCK
VDD1
P6
P7
VDD2
VRET
HOR
P5/B
OSD
P3/C
P2
P1/R
FB
VSS
R676 470
Q607 A733
R689 1/4W
R660 7.5K
Q608 C945
R680 680
8
6
9
7

C611 100u 16V
D605 1N4148
C635 .01u 100V C.C
C651 10u 100V
VCC
IC604 LM2439T
VBB
R/OUT
R/IN
G/IN
G/OUT
G/GND
B/IN
B/OUT
FD601
R631 220K 1/4W
R632 43K 1/4W
R633 22 1/4W
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D631 BAV21
D632 BAV21
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D633 1N4148
Q634 BF423
C632 1u 100V
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SG630
R628 47 1/2W
SG602
R677 47 1/2W
SG670
SG601
C617 560P 500V
C613 .1u ML
R605 100 1/2W
R651 220K 1/4W
R652 43K 1/4W
D651 BAV21
R653 22 1/4W
FD651 0.56UH
D652 BAV21
C650 1u 100V
D653 1N4148
Q654 BF423
C652 1u 100V
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R672 43K 1/4W
D671 BAV21
R673 10 1/4W
FD671 0.56UH
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C670 1u 100V
D673 1N4148
Q674 BF423
C672 1u 100V
P604
CRT
KR
KG
KB
G1
G2
HTR1
HTR2
SPARE12
GND/1
SPARE2
SPARE3
SPARE4
H.V
FOCUS
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L606 BEAD
R620 33K 1/2W
R638 56K
Q635 BF422
R643 1K 1/4W
R639 5.6K
C633 .01u C.C
R-BIAS
R658 56K
Q655 BF422
R663 1K 1/4W
R659 5.6K
C653 .01u C.C
G-BIAS
R678 56K
Q675 BF422
R683 1K 1/4W
R679 5.6K
C673 .01u C.C
B-BIAS

11S33-061A

CHUNTEX ELECTRONIC CO.			
MODEL :	1769EL/69VLX	PCB P/N :	C061A01.PCB
NAME :	CRT BOARD	FILE NAME :	C061A01.SCH
REV :	A01	DRAWN :	L.J.W
DATE :	07/05/88	CHECK :	H.H.C

CTX THAILAND

→HAN XC #2 (TU,POM)
→CKT
Y.Y 10/1.

1 2 3 4

A B C

12V +5V 86V

IC501 UM68P61
DAC2/HP DAC1/G2 DAC0 RESET VDD OSC0 OSCI P15/DATA P14/CLK P13/LED1 P12/LED2 P11/AD1 P10/AD0 P16/LED3 P27/LED4 S0 S1 S2 PS1 GND
VSYNCI HSYNCI VP/DAC3 SP/DAC4 KS/DAC5 TL/DAC6 H-FN/DAC7 P07/HSYCO P06/VSYCO HS/DAC13 VS/DAC12 HF/V BRIT P01/DAC9 RT/P00/DAC8 P31/SCL P30/SDA P20/MUTE DEGAUSS PS0

XL501 8MHZ
IC502 24C04
IC801 LA7836

KEYSTONE

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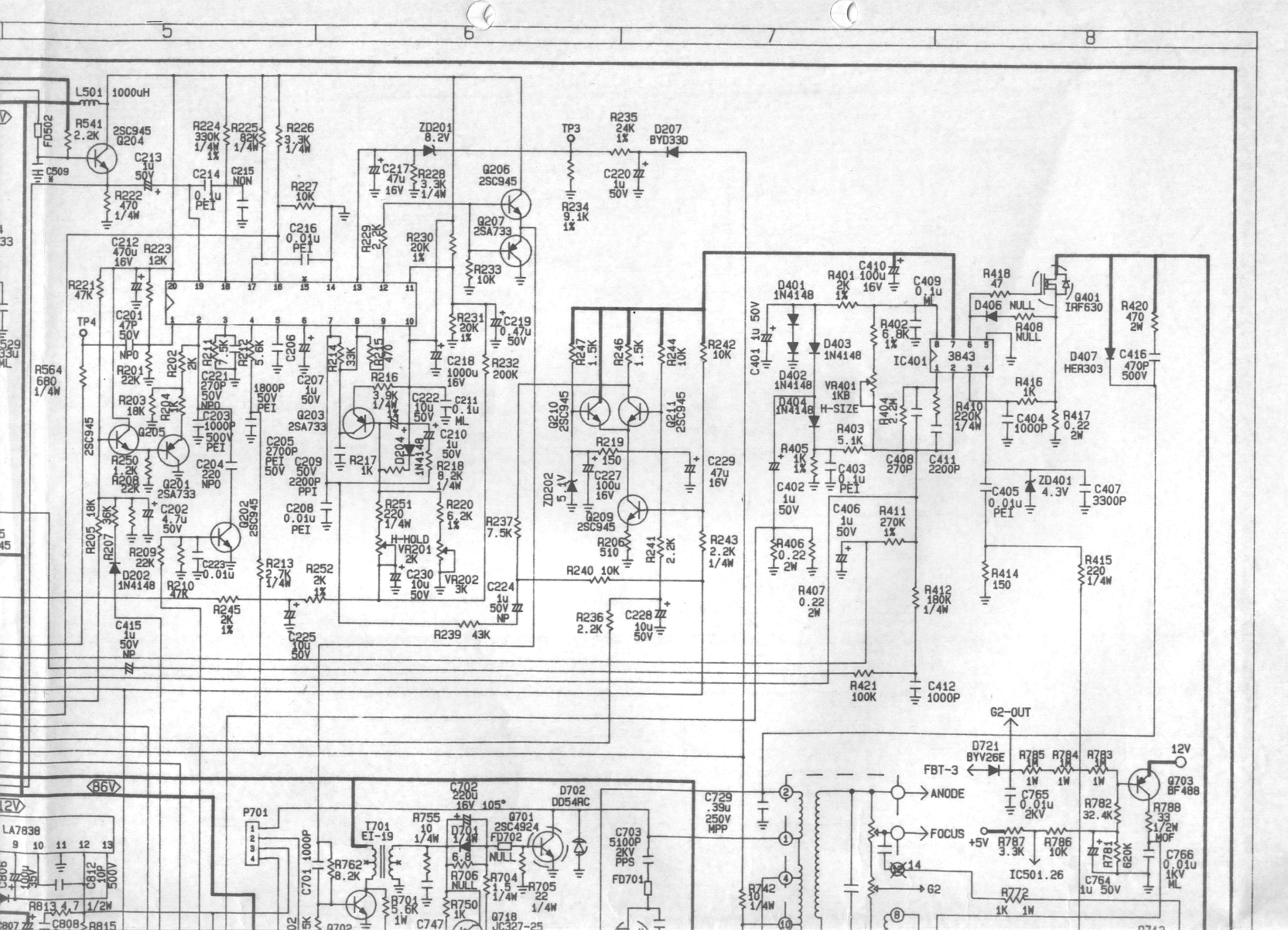
P506 GND CLAMP DATA CLK
LED501 LED502
S0 S1 S2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6
7
8
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FD502
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R224 330K 1/4W 1%
R225 82K 1/4W
R226 3.3K 1/4W
C214 0.1u PEI
C215 NON
R227 10K
C216 0.01u PEI
ZD201 8.2V
C217 47u 16V
R228 3.3K 1/4W
Q206 2SC945
Q207 2SA733
R229 2.2K
R230 20K 1%
R233 10K
TP3
R235 24K 1%
D207 BYD33D
C220 1u 50V
R234 9.1K 1%
C212 470u 16V
R223 12K
R221 47K
C201 47P 50V NPO
TP4
R564 680 1/4W
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R208 22K
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R212 5.6K
C221 270P 50V NPO
C206
C207 1u 50V
1800P 50V PEI
C205 2700P PEI 50V
C209 50V 2200P PPI
C208 0.01u PEI
R214 33K
R215 470
R216 3.9K 1/4W 1%
R217 1K
C222 10u 50V
C211 0.1u ML
Q203 2SA733
D204 1N4148
C210 1u 50V
R218 8.2K 1/4W
R251 220 1/4W
R220 6.2K 1%
H-HOLD VR201 2K
C230 10u 50V
VR202 3K
R237 7.5K
C224 1u 50V NP
R239 43K
R252 2K 1%
R245 2K 1%
C225 10u 50V
C415 1u 50V NP
R205 18K
R207 36K
R209 22K
C202 4.7u 50V
Q202 2SC945
D202 1N4148
R210 47K
C223 0.01u
R213 2.7K 1/4W
R231 20K 1%
C218 1000u 16V
C219 0.47u 50V
R232 200K
R247 1.5K
R246 1.5K
R244 10K
R242 10K
Q210 2SC945
Q211 2SC945
R219 150
C227 100u 16V
ZD202 5.1V
Q209 2SC945
R206 510
R241 2.2K
R240 10K
R243 2.2K 1/4W
R236 2.2K
C228 10u 50V
C229 47u 16V
D401 1N4148
R401 2K 1%
C410 100u 16V
C409 0.1u ML
C401 1u 50V
D402 1N4148
D403 1N4148
D404 1N4148
R402 6.8K 1%
IC401
3843
VR401 1KB H-SIZE
R404 2.2M
R403 5.1K
R405 1K 1%
C402 1u 50V
C403 0.1u PEI
C408 270P
C411 2200P
R406 0.22 2W
R407 0.22 2W
C406 1u 50V
R411 270K 1%
R412 180K 1/4W
C412 1000P
R421 100K
R418 47
D406 NULL
R408 NULL
Q401 IRF630
R420 470 2W
D407 HER303
C416 470P 500V
R416 1K
C404 1000P
R417 0.22 2W
R410 220K 1/4W
C405 0.01u PEI
ZD401 4.3V
C407 3300P
R414 150
R415 220 1/4W
G2-OUT
D721 BYV26E
FBT-3
R785 1M 1W
R784 1M 1W
R783 1M 1W
12V
Q703 BF488
R788 33 1/2W MOF
ANODE
C765 0.01u 2KV
FOCUS
+5V
R787 3.3K
R786 10K
IC501.26
R782 32.4K
R781 620K
C764 1u 50V
C766 0.01u 1KV ML
G2
R772 1K 1W
86V
12V
LA7838
C806 100u 35V
C812 10P 500V
R813 4.7 1/2W
C808
R815
P701
T701 EI-19
C701 1000P
R762 8.2K
R701 5.6K 1W
C702 220u 16V 105°
D701 1/4W
6.8
R706 NULL
R750 1K
C747
Q718 JC327-25
D702 DD54RC
Q701 2SC4924
FD702 NULL
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R705 22 1/4W
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FD701
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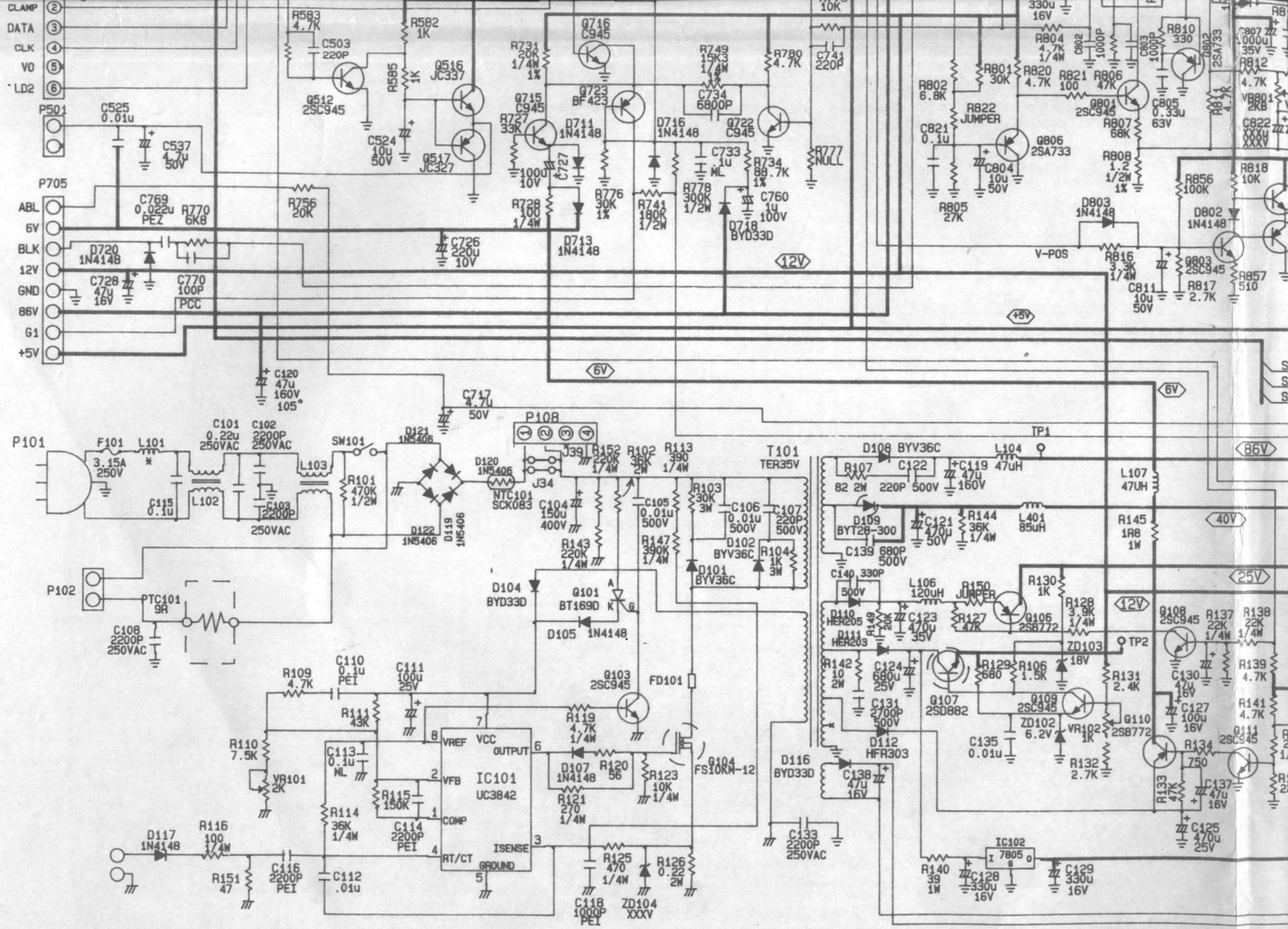
R742 10 1/4W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G1
+5V
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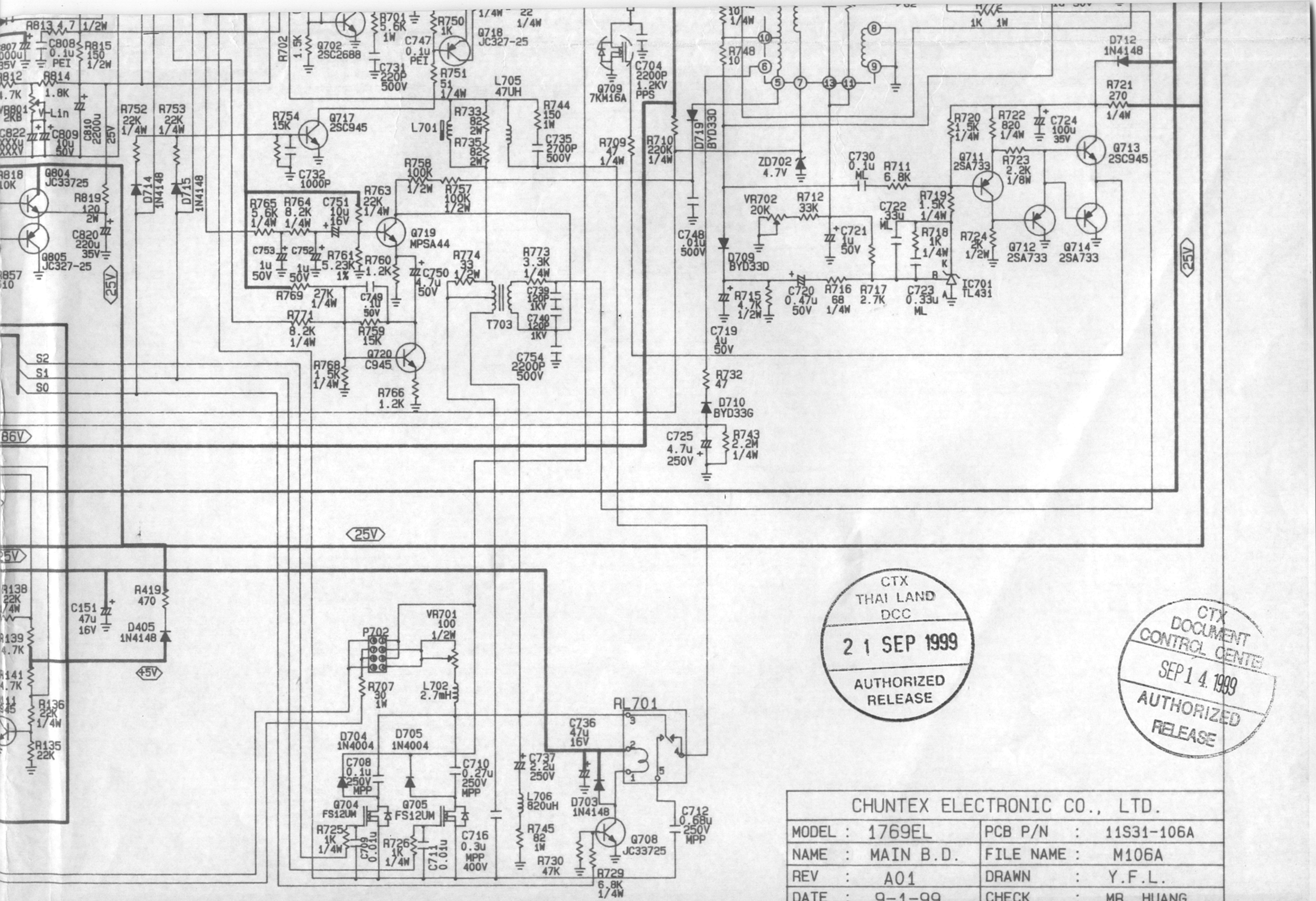
D720 1N4148
C728 47u 16V
C770 100P PCC
R756 20K
C120 47u 160V 105°
C717 4.7u 50V
C726 220u 10V
R583 4.7K
C503 220P
Q512 2SC945
R582 1K
R585 1K
Q516 JC337
Q517 JC327
C524 10u 50V
R731 20K 1/4W 1%
Q716 C945
Q715 C945
R727 33K
D711 1N4148
100u 10V
C727
R728 100 1/4W
D713 1N4148
R776 30K 1%
Q723 BF423
R749 15K3 1/4W 1%
C734 6800P
R780 4.7K
Q722 C945
D716 1N4148
R741 180K 1/2W
C733 1u ML
R734 88.7K 1%
R778 300K 1/2W
C760 1u 100V
D718 BYD33D
R777 NULL
10K
C741 220P
12V
R801 30K
R802 6.8K
R822 JUMPER
C821 0.1u
R805 27K
R820 4.7K
R821 100
R806 47K
C802 1000P
C803 1000P
R810 330
Q802 2SA733
C805 0.33u 63V
Q801 2SC945
R807 68K
R808 1.2 1/2W 1%
Q806 2SA733
C804 10u 50V
330u 16V
R804 4.7K 1/4W
R811 4.7K
R812 4.7K
VR801 2KB
C822 XXXu XXXV
R856 100K
R818 10K
D803 1N4148
D802 1N4148
V-POS
R816 3.3K 1/4W
C811 10u 50V
Q803 2SC945
R857 510
R817 2.7K
+5V
6V
P101
F101 3.15A 250V
L101 *
C115 0.1u
C101 0.22u 250VAC
C102 2200P 250VAC
L102
C103 2200P 250VAC
L103
SW101
R101 470K 1/2W
D121 1N5406
D122 1N5406
D119 1N5406
D120 1N5406
NTC101 SCK083
P108
J39
J34
R152 220K 1/4W
R102 36K 2W
R113 390 1/4W
T101 TER35V
C104 150u 400V
R143 220K 1/4W
C105 0.01u 500V
R147 390K 1/4W
R103 30K 3W
C106 0.01u 500V
C107 220P 500V
D102 BYV36C
R104 1K 3W
D101 BYV36C
D104 BYD33D
Q101 BT169D
D105 1N4148
P102
PTC101 9R
C108 2200P 250VAC
D108 BYV36C
L104 47uH
TP1
R107 82 2W
C122 220P 500V
C119 47u 160V
D109 BYT28-300
C121 470u 50V
R144 36K 1/4W
L401 85uH
C139 680P 500V
L107 47UH
R145 1R8 1W
40V
25V
12V
C140 330P 500V
D110 HER205
D111 HER203
L106 120uH
R150 JUMPER
R130 1K
R128 3.9K 1/4W
ZD103 18V
TP2
R142 10 2W
C123 470u 35V
R127 47K
Q106 2SB772
C124 680u 25V
R129 680
R106 1.5K
R131 2.4K
Q107 2SD882
Q109 2SC945
ZD102 6.2V
VR102 1K
Q110 2SB772
C131 2700P 500V
D112 HFR303
C135 0.01u
R132 2.7K
D116 BYD33D
C138 47u 16V
C133 2200P 250VAC
Q108 2SC945
R137 22K 1/4W
R138 22K 1/4W
C130 47u 16V
R139 4.7K
C127 100u 16V
R141 4.7K
Q111 2SC945
R134 750
R133 47K
C137 47u 16V
C125 470u 25V
IC102 7805
R140 39 1W
C128 330u 16V
C129 330u 16V
R109 4.7K
C110 0.1u PEI
C111 100u 25V
R111 43K
Q103 2SC945
FD101
R119 4.7K 1/4W
R110 7.5K
VR101 2K
C113 0.1u ML
R114 36K 1/4W
R115 150K
C114 2200P PEI
IC101 UC3842
VREF
VCC
OUTPUT
VFB
COMP
ISENSE
RT/CT
GROUND
D107 1N4148
R120 56
R121 270 1/4W
R123 10K 1/4W
Q104 FS10KM-12
D117 1N4148
R116 100 1/4W
R151 47
C116 2200P PEI
C112 .01u
R125 470 1/4W
R126 0.22 2W
C118 1000P PEI
ZD104 XXXV



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MODEL : 1769EL		PCB P/N :	11S31-106A
NAME : MAIN B.D.		FILE NAME :	M106A
REV : A01		DRAWN :	Y.F.L.
DATE : 9-1-99		CHECK :	MR. HUANG